

Serial No.: 10/716,563  
Docket No.: 102-1011  
Amendment dated July 18, 2006  
Reply to the Final Office Action of April 20, 2006

### **REMARKS**

Upon entry of the foregoing Amendment, claims 1-28 are pending in the application. By this Amendment, claims 1, 7, and 23-25 are amended and claims 26-28 are added. No new matter is being presented. In view of the following remarks, reconsideration and allowance of all the pending claims are requested.

#### **A. Allowable Subject Matter**

Applicant appreciates the Examiner's indication that claims 2-6, 11, and 14-21 contain allowable subject matter.

#### **B. §102(b) Rejection Over Sakai**

Claims 7-10, 12, 13, 22, 24, and 25 are rejected under 35 U.S.C. §102(b) as being anticipated by Sakai (U.S. Patent No. 6,353,720). For at least the reasons discussed below, Applicant respectfully submits that claims 7-10, 12, 13, 22, 24, and 25 are not anticipated by Sakai.

##### **1. Claim 7**

Claim 7 is directed to a developing unit and recites, *inter alia*: "a toner supplying roller to supply the toner contained in the toner receptacle to the developing roller, wherein the toner supplying roller is formed in a fur brush shape" and "a cleaning roller to remove the toner from the toner supplying roller." For at least the following reasons, Sakai does not disclose every limitation of claim 7.

The Examiner asserts that Sakai's supplying roller 42 corresponds to the toner supplying roller recited in claim 7 and that Sakai's cleaning roller 45 corresponds to the cleaning roller recited in claim 7. The Examiner further asserts that Sakai's cleaning roller 45 removes toner from the supplying roller 42. However, Applicant respectfully submits that Sakai does not disclose at least the toner supplying roller recited in claim 7 and the cleaning roller recited in claim 7.

In contrast to claim 7, Sakai describes and illustrates a supplying roller 42 that does not include any furs. See Sakai at Figs. 1, 9, and 12A-13. Accordingly, Sakai does not disclose "a toner supplying roller to supply the toner contained in the toner receptacle to the developing

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roller, wherein the toner supplying roller is formed in a fur brush shape," as recited in claim 7. Furthermore, Sakai described and illustrates a cleaning roller 45 to supply toner to the toner supplying roller 42. See Sakai at col. 24, lines 35-37 and 42-45. Accordingly, Sakai also does not disclose "a cleaning roller to remove the toner from the toner supplying roller," as recited in claim 7.

The Examiner further asserts that when Sakai's cleaning roller 45 contacts the supplying roller 42, a movement between the two rollers causes a friction that must somehow shake a part of the supplying roller 42 to remove toner from the supplying roller 42. However, Sakai does not disclose "friction" and/or to "shake" a portion of the toner supplying roller 42. Sakai describes at col. 24, lines 35-37, that the cleaning roller 45 supplies toner to the supplying roller 42 (as opposed to removing toner from the toner supplying roller 42), and thus, in the absence of the instant specification, there is no reason for the Examiner to interpret Sakai's cleaning roller 45 as causing a friction that shakes toner off of the supplying roller 42.

For at least the reasons discussed above, Sakai does not disclose every limitation of claim 7. Accordingly, claim 7 is not anticipated by, and is therefore patentable over, Sakai. Thus, reconsideration and withdrawal of this rejection of claim 7 are respectfully requested.

2. Claims 8-10, 12, 13, and 22

Claims 8-10, 12, 13, and 22 depend from claim 7 and thus include all of the limitations of claim 7. Accordingly, these dependent claims are not anticipated by, and are therefore patentable over, Sakai, for at least the same reasons that claim 7 is not anticipated by and is patentable over Sakai, as well as for their own limitations.

For example, claims 8 and 9 respectively recite "wherein the cleaning roller shakes off the toner remaining on a surface of the toner supplying roller," and "wherein the cleaning roller shakes a portion of the toner supplying roller." As discussed above, Sakai requires the cleaning roller 45 to supply toner to the supply roller 42 after the toner is cleaned from the regulating roller 43. Accordingly, Sakai does not disclose "wherein the cleaning roller shakes off the toner remaining on a surface of the toner supplying roller," as recited in claim 8, and "wherein the cleaning roller shakes a portion of the toner supplying roller," as recited in claim 9. Thus, for

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these reasons also, claims 8 and 9 are not anticipated by Sakai.

For at least the reasons discussed above, claims 8-10, 12, 13, and 22 are not anticipated by, and are therefore patentable over, Sakai. Thus, reconsideration and withdrawal of this rejection of claims 8-10, 12, 13, and 22 are respectfully requested.

3. Claim 24

Claim 24 a method and recites, *inter alia*: "removing residual toner remaining on the toner supplying roller with a cleaning roller after the toner supplying operation" and "wherein the toner supplying roller is formed in a fur brush shape." For at least the reasons discussed below, Sakai does not disclose every limitation of claim 24.

Sakai is discussed above with reference to claim 7. As discussed above, Sakai describes and illustrates a supplying roller 42 that does not include any furs. See Sakai at Figs. 1, 9, and 12A-13. Accordingly, Sakai does not disclose "wherein the toner supplying roller is formed in a fur brush shape," as recited in claim 24. Furthermore, Sakai described and illustrates a cleaning roller 45 to supply toner to the toner supplying roller 42. See Sakai at col. 24, lines 35-37 and 42-45. Accordingly, Sakai also does not disclose "removing residual toner remaining on the toner supplying roller with a cleaning roller after the toner supplying operation," as recited in claim 24.

For at least the reasons discussed above, Sakai does not disclose every limitation of claim 24. Accordingly, claim 24 is not anticipated by, and is therefore patentable over, Sakai. Thus, reconsideration and withdrawal of this rejection of claim 24 are respectfully requested.

4. Claim 25

Claim 25 is directed to a method and recites, *inter alia*: "removing the toner remaining on a toner supplying roller with a cleaning roller" and "wherein the toner supplying roller is formed in a fur brush shape." For at least the reasons discussed below, Sakai does not disclose every limitation of claim 25.

Sakai is discussed above with reference to claim 7. As discussed above, Sakai describes and illustrates a supplying roller 42 that does not include any furs. See Sakai at Figs.

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1, 9, and 12A-13. Accordingly, Sakai does not disclose "wherein the toner supplying roller is formed in a fur brush shape," as recited in claim 25. Furthermore, Sakai described and illustrates a cleaning roller 45 to supply toner to the toner supplying roller 42. See Sakai at col. 24, lines 35-37 and 42-45. Accordingly, Sakai also does not disclose "removing the toner remaining on a toner supplying roller with a cleaning roller," as recited in claim 25.

For at least the reasons discussed above, Sakai does not disclose every limitation of claim 25. Accordingly, claim 25 is not anticipated by, and is therefore patentable over, Sakai. Thus, reconsideration and withdrawal of this rejection of claim 25 are respectfully requested.

**C. §102(b) Rejection Over Kondo in view of Saha**

Claim 23 is rejected under 35 U.S.C. §102(b) as being anticipated by Kondo (the English-language abstract of Japanese Patent No. 59-172665) based on Saha (U.S. Patent No. 5,190,842). For at least the reasons discussed below, Kondo based on Saha does not disclose, teach, or suggest every limitation of claim 23.

Claim 23 is directed to an image forming apparatus and recites, *inter alia*: a developing unit comprising "a toner supplying roller having fur disposed around a circumference thereof to supply the toner contained in the toner receptacle to the developing roller, wherein the toner supplying roller is formed in a fur brush shape" and "a cleaning unit to shake the fur of the toner supplying roller to remove the toner from the toner supplying roller."

The Examiner asserts that Kondo's toner located on Kondo's supplement roller 11 corresponds to the "fur disposed around a circumference [of the toner supplying roller] to supply the toner contained in the toner receptacle to the developing roller," as recited in claim 23. See the Office Action at page 3, lines 10-11 ("...the toners that are on the surface of the rollers would be in the form of toner brushes or furs" (emphasis added)). Thus, the Examiner appears to assert that Kondo's supplement roller 11 having toner thereon corresponds "the toner supplying roller is formed in a fur brush shape," as presently-recited in claim 23. In addition, the Examiner asserts that Kondo's scraper 14 corresponds to the "cleaning unit to shake the fur of the toner supplying roller to remove the toner from the toner supplying roller," as recited in claim 23.

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However, in contrast to claim 23, Kondo describes and illustrates a supplement roller 11 that does not include any furs. See, for example, Fig. 2 of Kondo. As disclosed in the instant specification, toner is removed from the fur of the toner supplying roller, clearly-indicating that the toner itself is not the fur of the toner supplying roller. See the specification at paragraphs [0036] and [0040]. Furthermore, the instant specification discloses that in embodiments the toner supplying roller can be in a fur brush shape where a fur, such as nylon or acryl (which are not toners) attached on a cylinder of the toner supplying roller. See the specification at paragraph [0034]. Thus, Kondo's toner does not correspond to the "fur" recited in claim 23, and Kondo's supplement roller 11 having toner thereon corresponds "the toner supplying roller is formed in a fur brush shape," as presently-recited in claim 23. Accordingly, Kondo does not disclose, teach, or suggest "a toner supplying roller having fur disposed around a circumference thereof to supply the toner contained in the toner receptacle to the developing roller, wherein the toner supplying roller is formed in a fur brush shape," as recited in claim 23.

Furthermore, although Kondo describes and illustrates that a scraper 14 scrapes toner from a peripheral surface of the supplement roller 11, Kondo does not disclose that the scraper 14 scrapes toner from furs on the surface of the supplement roller 11 (as opposed to the surface of the supplement roller 11 itself). See the abstract and figures of Kondo. Accordingly, Kondo also does not disclose, teach, or suggest "cleaning unit to shake the fur of the toner supplying roller to remove the toner from the toner supplying roller," as recited in claim 23.

Saha is cited only for establishing that toner particles under the influence of magnets form fur-like hairs on the roller. However, as discussed above, Kondo's toner does not correspond to the "fur" recited in claim 23. Moreover, Saha does not remedy the deficiencies of Kondo, because Saha also does not disclose, teach, or suggest "a toner supplying roller having fur disposed around a circumference thereof to supply the toner contained in the toner receptacle to the developing roller, wherein the toner supplying roller is formed in a fur brush shape" and "a cleaning unit to shake the fur of the toner supplying roller to remove the toner from the toner supplying roller," as recited in claim 23.

Because neither Kondo nor Saha individually-discloses, teaches, or suggests "a toner supplying roller having fur disposed around a circumference thereof to supply the toner

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contained in the toner receptacle to the developing roller, wherein the toner supplying roller is formed in a fur brush shape" and "a cleaning unit to shake the fur of the toner supplying roller to remove the toner from the toner supplying roller," as recited in claim 23, the combination of Kondo and Saha also does not disclose, teach, or suggest "a toner supplying roller having fur disposed around a circumference thereof to supply the toner contained in the toner receptacle to the developing roller, wherein the toner supplying roller is formed in a fur brush shape" and "a cleaning unit to shake the fur of the toner supplying roller to remove the toner from the toner supplying roller," as recited in claim 23.

For at least the reasons discussed above, Kondo, alone or in view of Saha, does not disclose, teach, or suggest every limitation of claim 23. Thus, claim 23 is not anticipated by, and is therefore patentable over, Kondo, alone or in view of Saha. Accordingly, reconsideration and withdrawal of this rejection of claim 23 are respectfully requested.

**D. §102(e) Rejection Over Bae**

Claims 1, 7, 9, 10, 24, and 25 are rejected under 35 U.S.C. §102(e) as being anticipated by Bae (U.S. Patent Application Publication No. 2004/0096246). Applicant traverses this rejection for at least the following reason.

**1. Claims 1, 7, 9, and 10**

Claim 1 is directed to an image forming apparatus and recites, *inter alia*: "a toner supplying roller to supply the toner stored in the toner receptacle to the developing roller, wherein the toner supplying roller is formed in a fur brush shape." Claim 7 is directed to a developing unit and recites, *inter alia*: "a toner supplying roller to supply the toner contained in the toner receptacle to the developing roller, wherein the toner supplying roller is formed in a fur brush shape." Claims 9 and 10 depend from claim 7 and thus include all of the limitations of claim 7. For at least the following reasons, Bae does not disclose every limitation of claims 1, 7, 9, and 10.

Referring to Fig. 2 of Bae, the Examiner asserts that Bae's developer-supplying roller 106 corresponds to the toner supplying roller recited in claims 1, 7, 9, and 10. However, in contrast to claims 1, 7, 9, and 10, Bae describes and illustrates a developer-supplying roller 106

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that does not include any furs and is not formed in a fur brush shape. See Bae at paragraphs [0041] – [0045] and Fig. 2. Accordingly, Bae does not disclose "wherein the toner supplying roller is formed in a fur brush shape," as recited in claims 1, 7, 9, and 10.

For at least the reasons discussed above, Bae does not disclose every limitation of claims 1, 7, 9, and 10. Accordingly, claims 1, 7, 9, and 10 are not anticipated by, and are therefore patentable over, Bae. Thus, reconsideration and withdrawal of this rejection of claims 1, 7, 9, and 10 are respectfully requested.

2. Claims 24 and 25

Claim 24 is directed to a method and recites, *inter alia*: "supplying toner stored in a toner receptacle of the developing unit to a developing roller by using a toner supplying roller disposed within the developing unit, wherein the toner supplying roller is formed in a fur brush shape." Claim 25 is directed to a method and recites, *inter alia*: "transferring toner from a toner receptacle of a developing unit to a developing roller with a toner supplying roller to develop a toner image on a photoconductive medium, wherein the toner supplying roller is formed in a fur brush shape." For at least the following reasons, Bae does not disclose every limitation of claims 24 and 25.

Referring to Fig. 2 of Bae, the Examiner asserts that Bae's developer-supplying roller 106 corresponds to the toner supplying roller recited in claims 24 and 25. However, as discussed above and in contrast to claims 24 and 25, Bae describes and illustrates a developer-supplying roller 106 that does not include any furs and is not formed in a fur brush shape. Accordingly, Bae does not disclose "supplying toner stored in a toner receptacle of the developing unit to a developing roller by using a toner supplying roller disposed within the developing unit, wherein the toner supplying roller is formed in a fur brush shape," as recited in claim 24, and does not disclose "transferring toner from a toner receptacle of a developing unit to a developing roller with a toner supplying roller to develop a toner image on a photoconductive medium, wherein the toner supplying roller is formed in a fur brush shape," as recited in claim 25.

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For at least the reasons discussed above, Bae does not disclose every limitation of claims 24 and 25. Accordingly, claims 24 and 25 are not anticipated by, and are therefore patentable over, Bae. Thus, reconsideration and withdrawal of this rejection of claims 24 and 25 are respectfully requested.

**E. New Claims**

New claims 26-28 correspond to the subject matter removed from claim 1. Thus, support for new claims 26-28 can be found at least in original claim 1, as well as throughout the specification and figures. New claims 26-28 are patentable over the cited references for at least the same reasons that claim 1 is patentable over the cited references.

**F. Conclusion**

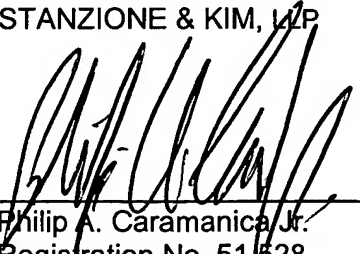
It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 502827.

Respectfully submitted,

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